

The California Energy Commission (CEC)

Presented to the Assembly Committee on
Utilities and Commerce
March 5, 2007

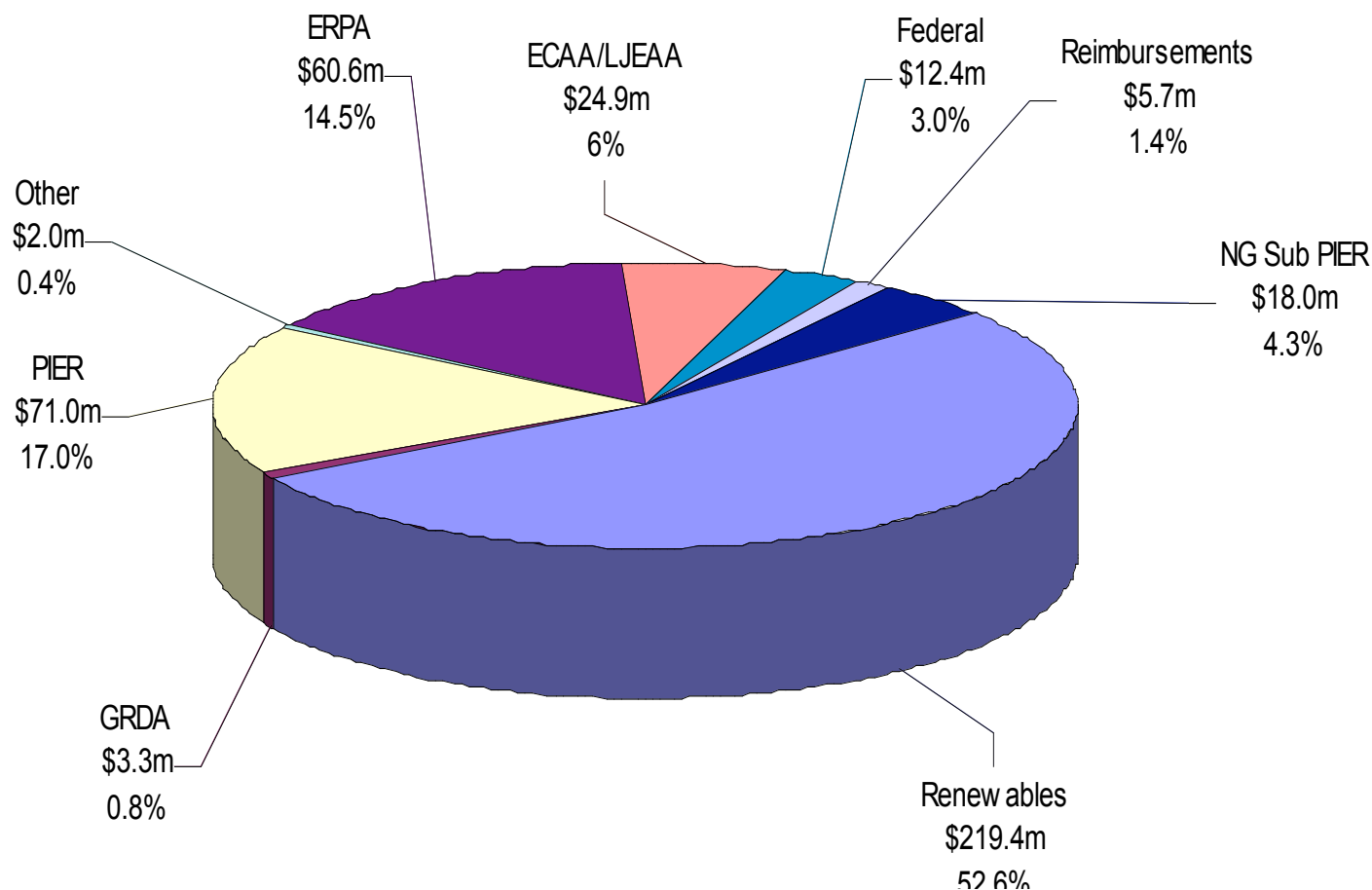


History of the CEC

- The CEC was created by the Legislature in 1974 as the state's primary energy policy and planning agency.
- The CEC has five major responsibilities:
 - Forecasting future energy needs and keeping historical energy data
 - Licensing thermal power plants 50 megawatts or larger
 - Promoting energy efficiency through appliance and building standards
 - Developing energy technologies and supporting renewable energy
 - Planning for and directing state response to energy emergency
- With the enactment of deregulation in 1996, the CEC's role changed — electricity forecasting and other analytical responsibilities were reduced and new responsibility for public goods charge programs was assigned.



FY 07/08 Governor's Budget Funding Sources (\$417.3 million)



Electricity Supply and Demand Balance

Electricity Supply Analysis

Funded by ERPA.

- Electricity System Assessments
- Electricity Supply Trends
- Retail Electricity and Natural Gas Price Forecasts
- Natural Gas Market Assessment
- Next Summer Electricity Adequacy Outlooks
- Assessment of Utilities Long Term Resource Adequacy
- Scenario Analysis for Policy Development



Electricity Supply and Demand Balance (cont.)

Electricity Demand Analysis

Funded by ERPA.

- Energy Demand Forecasting
- Temperature and Load Relationships
- Energy Efficiency Evaluation
- Demand Response
- Energy Consumption Trends
- Next Summer Electricity Adequacy Outlooks
- Assessment of Utilities Long Term Resource Adequacy
- Scenario Analysis for Policy Development



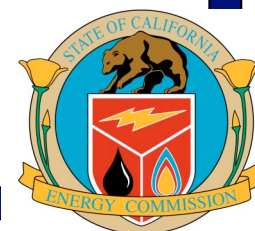
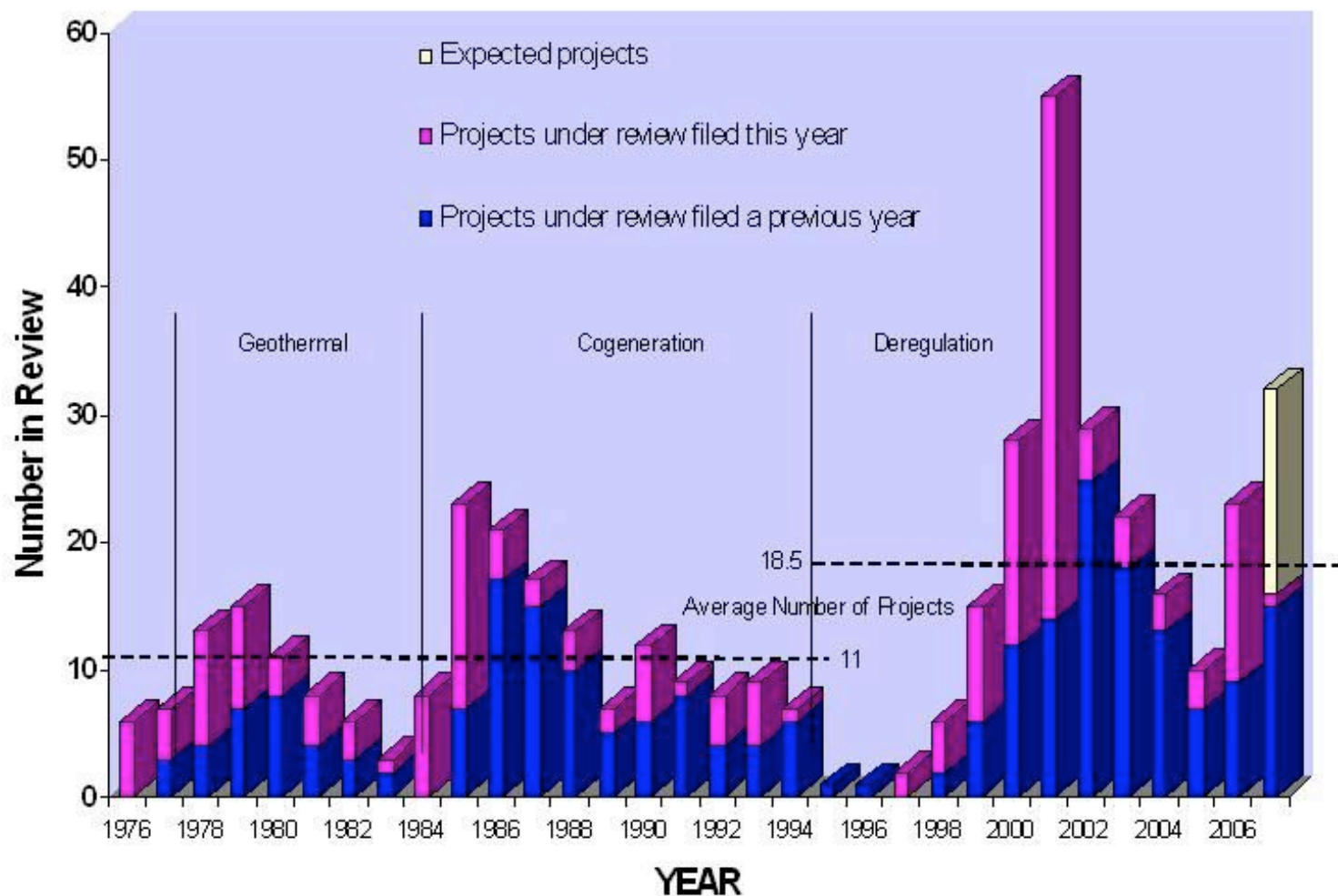
Facilities Siting

Funded by ERPA.

- The CEC was designed to be a one-stop licensing agency for new power plants, with the ability to override state or local law.
- It is the responsibility of the CEC to ensure that facilities are authorized in a safe, efficient, environmentally conscious manner. This includes ensuring documentation required by the California Environmental Quality Act (CEQA).
- The CEC has statutory authority to license thermal power plants equal to 50 megawatts (MW) or greater throughout the state.
- This authority extends to transmission lines, fuel supply lines, and other facilities related to the proposed power plant.
- Average permitting time: 13-14 months.



CALIFORNIA POWER PLANTS IN REVIEW



Transmission Planning

Funded by ERPA

- The Energy Commission prepares a biennial Strategic Transmission Investment Plan, as part of the IEPR, recommending actions necessary to ensure reliability, relieve congestion, and meet future load growth and generation needs.
- The Commission received authority in 2006, with the passage of SB 1059, to designate electric transmission line corridors on state and private land. The 2007 Strategic Transmission Plan will address the transmission corridor needs of the state.
- At the request of the California Resources Agency, the Commission has been coordinating the state's input to the US Department of Energy on the designation of energy corridors on federal land in the 11 western states, including California. The US DOE expects to designate corridors at the end of 2007.
- The Commission Collaborates with the California Independent System Operator to assess bulk transmission capacity expansion needs to serve California near term, assess the financial and environmental costs associated with transmission line projects, and assess non-grid expansion.

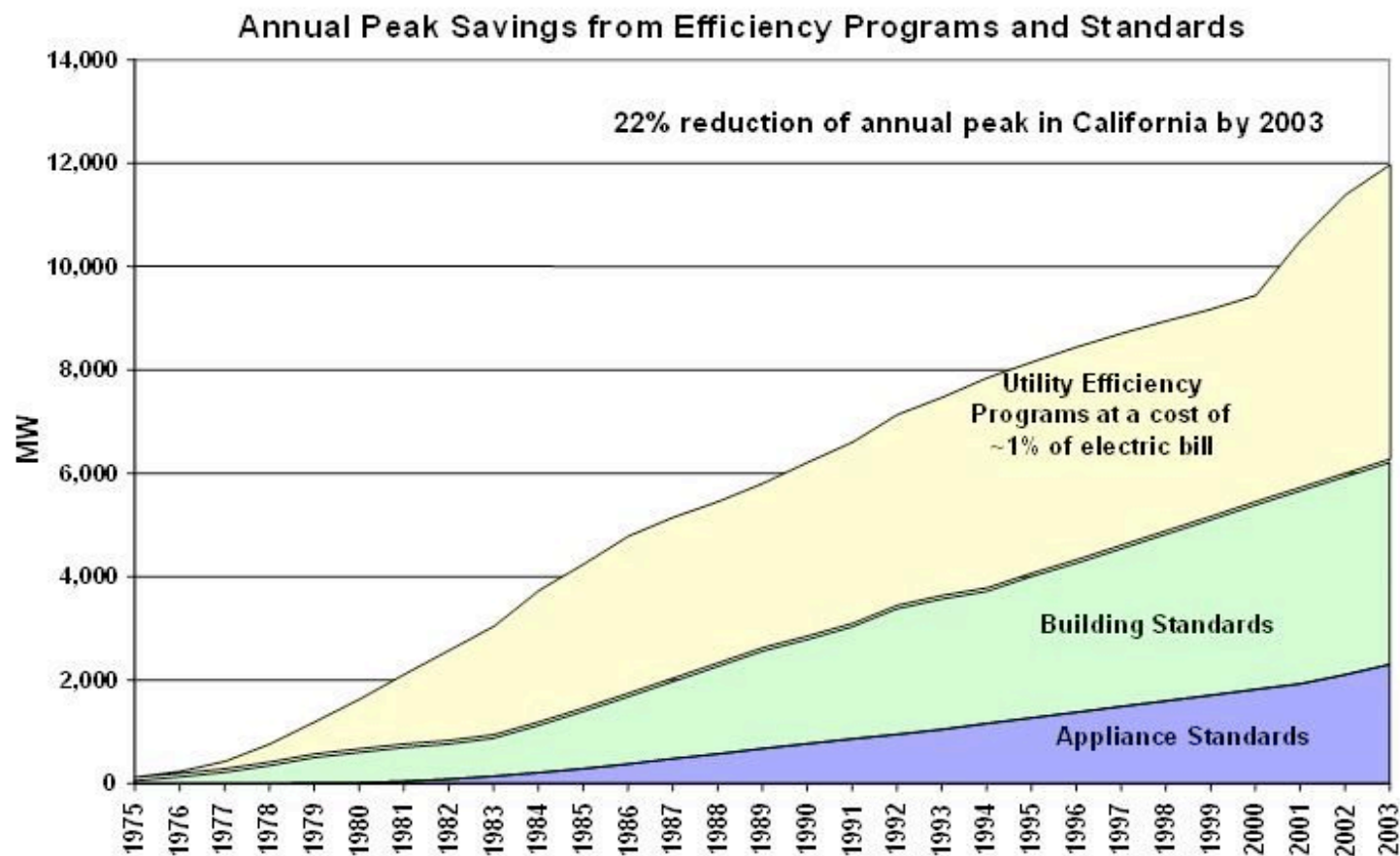


Energy Efficiency

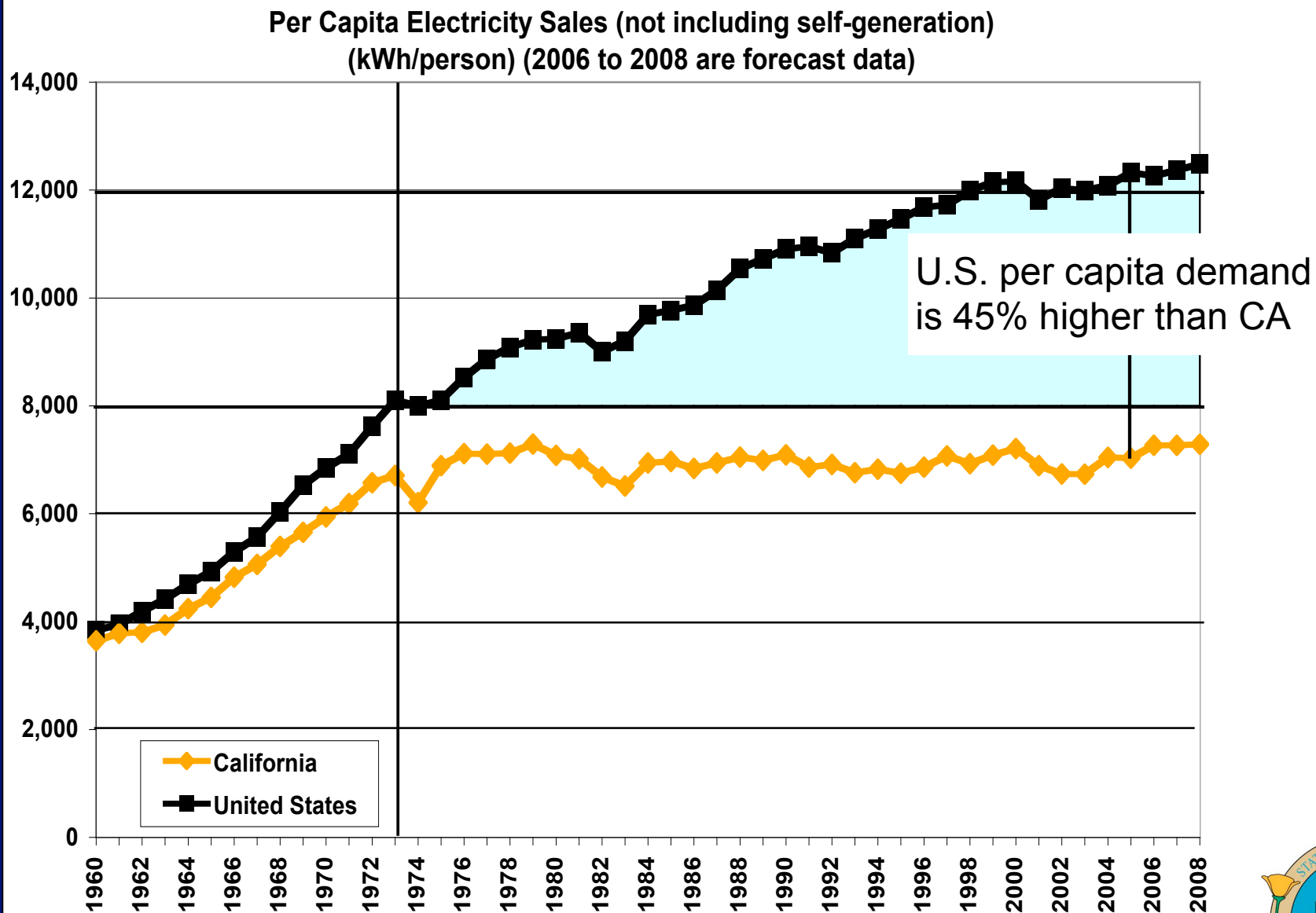
Funded by ERPA, Federal State Energy Program funds, EECA, LJEAA.

- The CEC has the responsibility of developing building and appliance efficiency standards. These are administered through Title 24 and Title 20, respectively, and mandate specific efficiency requirements for products sold and construction requirements within the state.
- In consultation with the CPUC, the CEC measures the effectiveness of utility efficiency programs, and also runs several efficiency programs itself, including the Green Building Initiative.
- The CEC's analyses of energy demand help provide a measurement of the effectiveness of the efficiency programs .
- Public information campaigns are designed by the CEC to help consumers identify how they can reduce their energy demand through cost-effective measures.
- The CEC offers technical assistance to local governments, schools, hospitals, and industry in improving their energy efficiency.





California Energy Commission



Renewable Energy

Funded by Public Good Charge.

- Renewable Portfolio Standard Program (RPS)
 - Goal of 20% of statewide retail electricity sales met with renewable energy by 2010.
 - Supports the Western Renewable Energy Generation Information System (WREGIS), a regional renewable energy tracking and registry system, to ensure that renewable energy is not double counted for RPS compliance.
- New Solar Homes Partnership
 - Provides incentives to install solar on new homes.
 - Part of Governor's California Solar Initiative to install solar on one million homes to generate 400 MW.



Renewable Energy (cont.)

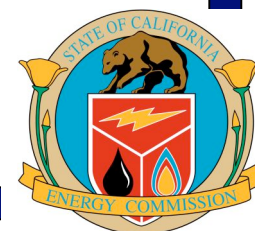
- Supports market competition among in-state existing renewable electricity facilities through production incentives.
 - \$244 million in production incentives kept 4,400 MW of existing renewable capacity online (273 facilities)
- Encourages development of new renewable electricity generation facilities through production incentives and supplemental energy payments.
 - \$66 million in production incentives, more than 7,000 GWhs of generation from 47 new on-line projects
- Stimulates renewable technology market growth by providing rebates to purchasers of on-site renewable generation.
 - \$314 million in rebates, 91 MW of renewable distribution generation installed on homes and businesses



Research, Development and Demonstration

Funded by Public Goods Charge.

- Public Interest Energy Research (PIER) Program initiated in 1998. Current funding level is \$83 million per year.
- Six specific research categories identified:
 - Efficiency and Demand Response
 - Renewables
 - Clean Fossil Fuel Generation – Distributed Generation, Combined Heat & Power
 - Transportation
 - Energy Systems Research – Transmission and Distribution, Grid Interconnection
 - Environmental Impacts – Air, Water, Climate, Communities
- Energy Innovations Small Grant Program



Research, Development and Demonstration (cont.)

- In 2006, the Legislature provided further program guidance by identifying four specific research areas (SB 1250, Perata):
 - Advanced transportation technologies.
 - Increased energy efficiency in buildings, appliances, lighting, and other applications.
 - Advanced electricity generation technologies.
 - Advanced electricity technologies that reduce or eliminate consumption of water or other finite resources, increase use of renewable energy resources, or improve transmission or distribution.



Research, Development and Demonstration (cont.)

- Mechanisms for avoiding duplication/building on past work/ensuring relevance:
 - Regular coordination with IOUs
 - State Agency Partnerships
 - Market Partnerships
 - Use California Capabilities (Universities, National Laboratories, High Technology Companies)
 - Leverage/complement Federal Investments



Fuels and Transportation

Funded by ERPA.

- Encourage, evaluate risks and opportunities, and assess market potential of new technologies and fuels
 - Co-authored with the ARB the report “Reducing California’s Petroleum Dependence”
 - Preparing, in partnership with ARB, a state plan to increase the use of alternative fuels (AB 1007). This plan is due by June 30.
- Perform analyses to assess issues related to existing transportation fuels
 - Prepares 20-year forecast of fuel supply and demand.
 - Assess data submitted under the Petroleum Industry Information Reporting Act (PIIRA)
- Lead multi-disciplinary programs in collaboration with other state agencies.
 - Natural Gas Working Group
 - LNG Interagency Working Group
 - Bioenergy Interagency Working Group



Emergency and Contingency Planning

Funded by ERPA.

- The CEC is responsible for responding to unexpected disruptions in statewide and local energy supply.
- The CEC is responsible for developing the California Energy Emergency Response Plan.
- If supplies of petroleum products become critical, the CEC secures fuels for emergency responders through a Petroleum Fuels Set-Aside Program.



Integrated Energy Policy Report

Funded by ERPA.

- In 2002, the Legislature passed a bill that requires the CEC to produce an integrated energy policy report.
 - Conduct integrated assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices.
 - Develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.
- The CEC adopts the Energy Report every two years and an update every other year. The updates provide a more in depth focus on selected issues.



CEC and Climate Change

Funded by ERPA, Public Goods Charge.

- Since its creation, the CEC's energy efficiency, alternative fuels, and renewable energy programs have contributed to a reduction of greenhouse gases (GHGs).
- Per direction from the Legislature in 1989, the CEC became the first state agency to explicitly address the issue of climate change (GHG Inventory).
- The CEC performs research pertaining to the physical and economic impacts of climate change specific to California.
- The Global Warming Solutions Act (AB 32 Nunez) of 2006 codified a strong commitment toward addressing the issue of climate change, and directed the ARB to work with CEC and the CPUC toward the implementation of strategies to reduce GHG emission reductions in a variety of California's economic sectors.

